

**BARCLAYS OFFICIAL CALIFORNIA CODE
OF REGULATIONS
TITLE 13. MOTOR VEHICLES
DIVISION 3. AIR RESOURCES BOARD
CHAPTER 2. ENFORCEMENT OF VEHICLE
EMISSION STANDARDS AND
SURVEILLANCE
TESTING
ARTICLE 2.1. PROCEDURES FOR IN-USE
VEHICLE VOLUNTARY AND INFLUENCED
RECALLS**

This database is current through 09/16/2005, Register
2005, No. 37.

Appendix A to Article 2.1 California In-Use Vehicle
Emission-Related Recall Procedures, Enforcement
Test Procedures, and Failure Reporting Procedures
for 1982 and Subsequent Model-Year Passenger
Cars, Light-Duty Trucks, Medium-Duty Vehicles,
Heavy-Duty Vehicles and Engines, Motorcycles,
1997 and Subsequent Model-Year Off-Road
Motorcycles and All-Terrain Vehicles, 2000 and
Subsequent Model-Year Off-Road Compression-
Ignition Engines, and 2009 and Subsequent Model-
Year Spark-Ignition Inboard and Sterndrive Marine
Engines.

**Vehicle and Engine Parameters, Components, and
Specifications**

**I. Passenger Car, Light-Duty Truck, Medium-Duty
Vehicle, Motorcycle, and Inboard and Sterndrive
Parameters and Specifications.**

A. Basic Engine Parameters -Reciprocating Engines.

1. Compression ratio.
2. Cranking compression pressure.
3. Valves (intake and exhaust).
 - a. Head diameter dimension.
 - b. Valve lifter or actuator type and valve lash dimension.
4. Turbocharger calibrations.
5. Camshaft timing.

a. Valve opening (degrees BTDC).

b. Valve closing (degrees ATDC).

c. Valve overlap (inch-degrees).

B. Basic Engine Parameters -Rotary Engines.

1. Intake port(s): Timing and overlap if exposed to the combustion chamber.
2. Exhaust port(s): Timing and overlap if exposed to the combustion chamber.

3. Cranking compression pressure.

4. Compression ratio.

**C. Air Inlet System: Temperature control system
calibration.**

D. Fuel System.

1. General

a. Engine idle speed.

b. Engine idle mixture.

2. Carburetion.

a. Air-fuel flow calibration.

b. Transient enrichment system calibration.

c. Starting enrichment system calibration.

d. Altitude compensation system calibration.

e. Hot idle compensation system calibration.

3. Fuel injection.

a. Control parameters and calibrations.

b. Fuel shutoff system calibration.

c. Starting enrichment system calibration.

d. Transient enrichment system calibration.

- e. Air-fuel flow calibration.
- f. Altitude compensation system calibration.
- g. Operating pressure(s).
- h. Injector timing calibrations.
- E. Ignition System.
 - 1. Control parameters and calibrations.
 - 2. Initial timing setting.
 - 3. Dwell setting.
 - 4. Altitude compensation system calibration.
 - 5. Spark plug voltage.
- F. Engine Cooling System: Thermostat calibration.
- 456G. Exhaust Emission Control system.
 - 1. Air injection system.
 - a. Control parameters and calibrations.
 - b. EGR valve flow calibration.
 - 2. EGR system.
 - a. Control parameters and calibrations.
 - b. EGR valve flow calibration.
 - 3. Catalytic converter system.
 - a. Active surface area.
 - b. Volume of catalyst.
 - c. Conversion efficiency.
 - d. Leaded fuel restrictor or constricted fuel filler neck.
 - 4. Backpressure.
- H. Evaporative Emission Control System.
 - 1. Control parameters and calibrations.
 - 2. Fuel tank.

- a. Pressure and vacuum relief settings.
- b. Fuel fill pipe and opening specifications
(Reference [section 2290, Title 13, C.C.R.](#)).
- I. Crankcase Emission Control System.
 - 1. Control parameters and calibrations.
 - 2. Valve calibration(s).
- J. Auxiliary Emission Control Devices (AECD).
 - 1. Control parameters and calibrations.
 - 2. Component calibration(s).
- K. Emission Control Related Malfunction and Diagnostic Systems.
 - 1. On-Board Malfunction and Diagnostic Systems
 - a. Control parameters and calibrations.
 - b. Component calibration(s).
 - 2. Emission Control Related Warning Systems
 - a. Control parameters and calibrations.
 - b. Component calibration(s).
- L. Driveline Parameters.
 - 1. Axle ratio(s).
- II. Heavy-Duty Gasoline Engine Parameters and Specifications.
 - A. Basic Engine Parameters.
 - 1. Compression ratio.
 - 2. Cranking compression pressure.
 - 3. Supercharger/turbocharger calibration.
 - 4. Valves (intake and exhaust).
 - a. Head diameter dimension.
 - b. Valve lifter or actuator type and valve lash dimension.
 - 5. Camshaft timing.

- a. Valve opening (degrees BTDC).
- b. Valve closing (degrees ATDC).
- c. Valve overlap (inch-degrees).
- B. Air Inlet System: Temperature control system calibration.
- C. Fuel System.
 - 1. General.
 - a. Engine idle speed.
 - b. Engine idle mixture.
 - 2. Carburetion.
 - a. Air-fuel flow calibration.
 - b. Transient enrichment system calibration.
 - c. Starting enrichment system calibration.
 - d. Altitude compensation system calibration.
 - e. Hot idle compensation system calibration.
 - 3. Fuel injection.
 - a. Control parameters and calibrations.
 - b. Fuel shutoff system calibration.
 - c. Starting enrichment system calibration.
 - d. Transient enrichment system calibration.
 - e. Air-fuel flow calibration.
 - f. Altitude compensation system calibration.
 - g. Operating pressure(s).
 - h. Injector timing calibrations.
- D. Ignition System.
 - 1. Control parameters and calibrations.
 - 2. Initial timing setting.
 - 3. Dwell setting.
 - 4. Altitude compensation system calibration.
 - 5. Spark plug voltage.
- E. Engine Cooling System: Thermostat calibration.
- F. Exhaust Emission Control system.
 - 1. Air injection system.
 - a. Control parameters and calibrations.
 - b. Pump flow rate.
 - 2. EGR system.
 - a. Control parameters and calibrations.
 - b. EGR valve flow calibration.
 - 3. Catalytic converter system.
 - a. Active surface area.
 - b. Volume of catalyst.
 - c. Conversion efficiency.
 - d. Leaded fuel restrictor or constricted fuel filler neck.
 - 4. Backpressure.
- G. Evaporative Emission Control System.
 - 1. Control parameters and calibrations.
 - 2. Fuel tank.
 - a. Pressure and vacuum relief settings.
 - b. Fuel fill pipe and opening specifications (Reference [section 2290, Title 13, C.C.R.](#)).
- H. Crankcase Emission Control System.
 - 1. Control parameters and calibrations.
 - 2. Valve calibration(s).
- I. Auxiliary Emission Control Devices (AECD).
 - 1. Control parameters and calibrations.

2. Component calibration(s).
- J. Emission Control Related Warning Systems.
1. Control parameters and calibrations.
 2. Component calibration(s).
- III. Heavy-Duty Diesel Engine and Off-Road Compression-Ignition Engine Parameters and Specifications.
- A. Basic Engine Parameters -Four Stroke Cycle Reciprocating Engines.
1. Compression ratio.
 2. Cranking compression pressure.
 3. Supercharger/turbocharger calibration.
 4. Valves (intake and exhaust).
 - a. Head diameter dimension.
 - b. Valve lifter or actuator type and valve lash dimension.
 5. Camshaft timing.
 - a. Valve opening (degrees BTDC).
 - b. Valve closing (degrees ATDC).
 - c. Valve overlap (inch-degrees).
- B. Basic Engine Parameters -Two Stroke Cycle Reciprocating Engine.
- 1-5. Same as section III.A.
6. Intake port(s): Timing in combustion cycle.
 7. Exhaust port(s): Timing in combustion cycle.
- C. Air Inlet System: Temperature control system calibration.
1. Temperature control system calibration.

2. Maximum allowable air inlet restriction.
- D. Fuel System.
1. Fuel injection.
 - a. Control parameters and calibrations.
 - b. Transient enrichment system calibration.
 - c. Air-fuel flow calibration.
 - d. Altitude compensation system calibration.
 - e. Operating pressure(s).
 - f. Injector timing calibration.
- E. Exhaust Emission Control System: Maximum allowable backpressure.
- F. Crankcase Emission Control System.
1. Control parameters and calibrations.
 2. Valve calibration(s).
- G. Auxiliary Emission Control Device (AECD).
1. Control parameters and calibrations.
 2. Component calibration(s).
- <General Materials (GM) - References, Annotations, or Tables>

Note: Authority cited: [Sections 39600, 39601, 43013, 43018, 43101, 43104, 43105 and 43806, Health and Safety Code](#); and [Section 28114, Vehicle Code](#). Reference: [Sections 39002, 39003, 39500, 43000, 43009.5, 43013, 43018, 43100, 43101, 43101.5, 43102, 43104, 43105, 43106, 43107, 43202, 43204-43205.5 43206, 43210, 43211, 43212, 43213 and 43806, Health and Safety Code](#); and [Section 28114, Vehicle Code](#).

HISTORY

1. Amendment of text previously incorporated by reference filed 1-24-90;

operative 2-23-90 (Register 90, No. 8). For prior history, see Registers 86, No. 38 and 83, No. 17.

2. Amendment of subsection (k)(9) filed 5-22-90; operative 6-21-90 (Register 90, No. 28).

3. Change without regulatory effect amending subsection (c) and adding Appendix A to the Table of Contents below article 2.1, filed 10-16-90 pursuant to [section 100, title 1, California Code of Regulations](#) (Register 90, No. 46).

4. Amendment of subsections (b), (c), (d), (e), (f), (g), (h), (i), (j), (k), (l), (m) and (n) filed 8-2-91; operative 9-2-91 (Register 91, No. 49).

5. Amendment of subsection (l) filed 8-30-91; operative 9-30-91 (Register 92, No. 14).

6. Amendment of subsection (l)(7) and new subsection (l)(11) filed 5-12-94; operative 6-13-94 (Register 94, No. 19).

7. New subsection (l)(12) and amendment of Appendix filed 1-26-95; operative 1-26-95 pursuant to [Government Code section 11343.4\(d\)](#) (Register 95, No. 4). Note: Under section 209(e)(2) of the Federal Clean Air Act ([42 U.S.C. s 7543\(e\)\(2\)](#)), California is required to receive authorization from the Administrator of the U.S. Environmental Protection Agency (U.S. EPA) prior to enforcing its regulations regarding new off-road vehicles and engines. Accordingly, the Air Resources Board will not seek to enforce the off-highway recreational vehicle regulations until such time as it receives authorization from the U.S. EPA.

8. Amendment of subsections (l)(6)-(7) and new subsections (l)(13)-(16) filed 12-14-95; operative 1-13-96 (Register 95, No. 50).

9. Amendment of subsections (l)(6)-(7), (l)(11) and (l)(13)-(16) and new subsections (l)(17)-(l)(20) filed 4-15-99; operative 5-15-99 (Register 99, No. 16).

10. Amendment of subsections (b) and (l)(9), new subsection (l)(17) and subsection relettering filed 10-28-99; operative 11-27-99 (Register 99, No. 44).

11. New subsections (l)(22)-(l)(22)(C), amendment of first paragraph and section III. of Appendix A, and amendment of Notefiled 12-28-2000; operative 12-28-2000 pursuant to [Government Code section 11343.4\(d\)](#) (Register 2000, No. 52).

12. New subsection (l)(23) and amendment of first paragraph and heading I. of Appendix filed 7-22-2002; operative 8-21-2002 (Register 2002, No. 30).

13. Amendment of section and Notefiled 10-16-2003; operative 11-15-2003 (Register 2003, No. 42).

13 CA ADC Appendix A
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